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TWO NEW SPECIES OF RED GUM (*EUCALYPTUS* L'HERIT., MYRTACEAE) FROM QUEENSLAND

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Summary

Two new Queensland Red Gum species (*Eucalyptus* series *Exsertae*) are described: *E. nudicaulis*, from the Mount Isa area and *E. terrica*, from south-eastern Queensland. A key to the members of Series *Exsertae* in Queensland and the Northern Territory is given.

Introduction

The Red Gum group (*Eucalyptus* series *Exsertae* Blakely (Chippendale 1988)), is perhaps the best known of all eucalypt groups, and includes *E. camaldulensis*, the most widespread species in the genus. The group reaches its greatest development in New South Wales, but is also well represented in Queensland.

Its species are characterised by the usually smooth, dappled bark, concolourous adult leaves, simple axillary inflorescences, double operculum (usually much longer than wide), fruits with strongly exserted valves, and (with the exception of *E. camaldulensis*) black angular seeds.

With the publication of this paper and others (Johnson & Hill 1990, in press), almost all the known red gum taxa of Queensland will have been described. The exception is *E. exserta* F. Muell. *s. lat.* which is highly variable and comprises at least two taxa. These will be treated in a future paper.

Taxonomy

Eucalyptus nudicaulis A. Bean **sp. nov.** affinis *E. gillenii* Ewart & L. Kerr a qua foliis adultis et juvenalibus multo angustioribus, operculis circa duplo longioribus quam latis differt. **Typus:** Queensland. BURKE DISTRICT: 25 km N of Mount Isa, November 1986, *P.L. Harris* 98 (BRI).

A mallee, 2–6 metres high. Bark smooth throughout, shiny, grey or silvery in colour, shedding in irregular flakes or sheets. Cotyledons bilobed. Leaves and stems glabrous at all stages. Seedling leaves opposite for about 8 pairs; narrow-lanceolate, grey-green, not glaucous, slightly discolourous, to 115 × 18 mm; petioles 4–10 mm long; stems more or less quadrangular; undersides of early seedling leaves purple. Juvenile leaves continuing narrow-lanceolate, grey-green, concolourous. Adult leaves narrow-lanceolate, dull, grey-green, concolourous, 12–19 × 1–1.8 cm; petioles terete, 15–30 mm long; petioles and leaf midribs yellow; lateral veins at about 45° to the midrib, terminating at an intramarginal vein, finer reticulation incomplete, oil glands very numerous, of various sizes and colours. Inflorescence axillary, 7-flowered; peduncles terete, 7–13 mm long; pedicels 0–4 mm long; buds 12–15 × 6 mm, outer operculum shed early, inner operculum conical, pointed, about 11 × 6 mm; flowers white, stamens all fertile, outer stamens erect in bud, inner stamens irregularly flexed. Fruits ovoid to globular-truncate, 6–9 × 6–9 mm, disc broad, convex; valves stongly exserted, (3)4 or 5. Seeds black, angular, hilum terminal. **Fig 1.**

Specimens examined: Queensland. BURKE DISTRICT: Upper Stone Axe Creek, 25 km N of Mount Isa, Dec 1989, *Harris* 430 (BRI); west of Hilton Mine, c. 20 km N of Mount Isa, Jun 1989, *Bean* 1080 (BRI); headwaters of Stone Axe Creek, 25 km N of Mount Isa, May 1989, *Crisp* 8298 per P.L. Harris (BRI,CANB,CBG,MEL,NSW).

Distribution and habitat: *E. nudicaulis* is confined to the Mt Isa-Cloncurry area of north-western Queensland. It grows only on quartzite ridges, at altitudes between 400 and 520 metres. It is known from about six small populations, and it grows in rocky gullies or steep hillsides, in association with *E. leucophloia* Brooker, *E. capricornia* Carr & Carr, and *Triodia* spp. **Map 1.**

Flowering period: November – February.

Affinities: *E. nudicaulis* is most closely related to *E. gillenii* from the southern parts of the Northern Territory. However, it differs from this species in its narrow lanceolate juvenile leaves (compared to the ovate to orbicular juveniles of *E. gillenii*), the narrower adult leaves, and the longer, more conical operculum. The operculum of *E. gillenii* is scarcely longer than it is broad. Of the species indigenous in Queensland, *E. nudicaulis* is closest to *E. exserta s. lat.*, but they are readily separated on bark characters.

Etymology: The specific epithet refers to the bark which is smooth throughout, in contrast to that of *E. exserta s. lat.*, which is largely rough-barked.

Eucalyptus terrica A. Bean **sp. nov.** affinis *E. chloroclada* (Blakely) L. Johnson & K. Hill a qua cortice scabra, foliis alabastris fructibusque parvioribus, foliis juvenalibus multo angustioribus differt. **Typus:** 4.3 km from 'Terrica' Station, towards Gore, 12 September 1990, *A.R. Bean* 2254 & *D.A. Kleinig* (holo: BRI; iso: AD,CANB,MEL,NSW).

A small tree to 8 m high. Bark rough, brown and sub-fibrous on the trunk and largest branches; small and medium sized branches smooth-barked. Cotyledons elliptical, 3 × 5 mm; seedling leaves dull green, ovate to elliptical, to 66 × 18 mm, discolourous, opposite for about 5 pairs. Juvenile leaves narrow-lanceolate, green or bluish-green, discolourous, dull, 11–14 × 1–2.2 cm, petioles 5–7 mm long. Adult leaves narrow-lanceolate, grey-green, concolourous, 7.5–9.6 × 0.9–1.6 cm; venation regular, at about 45° to the midrib; oil dots numerous, several per areole; intramarginal vein present about 1 mm from leaf margin; petioles 10–14 mm long. Inflorescences axillary, 7-flowered; peduncles 4–6 mm long, pedicels 1–3 mm long; buds up to 8 × 3.5 mm, outer operculum shed early, inner operculum conical, up to 6 × 4 mm; stamens erect in bud, white. Fruits hemispherical to globular-truncate, 4–5 × 4–5 mm, disc flat or convex, valves strongly exserted, 3 or 4(5). **Fig 1.**

Specimens examined: Queensland. DARLING DOWNS DISTRICT: along Stanthorpe road, 10 km S of Warwick, Feb 1990, *Bean* 1362 (BRI,CANB); on road to 'Terrica', 22.3 km S of Gore, Nov 1989, *Bean* 1174 (BRI); 10 miles [16 km] NE of Inglewood, Feb 1969, *Stanton* s.n. [AQ 134415] (BRI); 1 km W of Coolmunda Dam, near Tobacco road, Oct 1988, *Grimshaw* C2 (BRI); Warwick-Pikedale road, 5 km SW of Rabbit Fence, Jun 1990, *Bean* 1649 (BRI); Warroo, Apr 1990, *Bean* 1476 (BRI,CANB) (seedling).

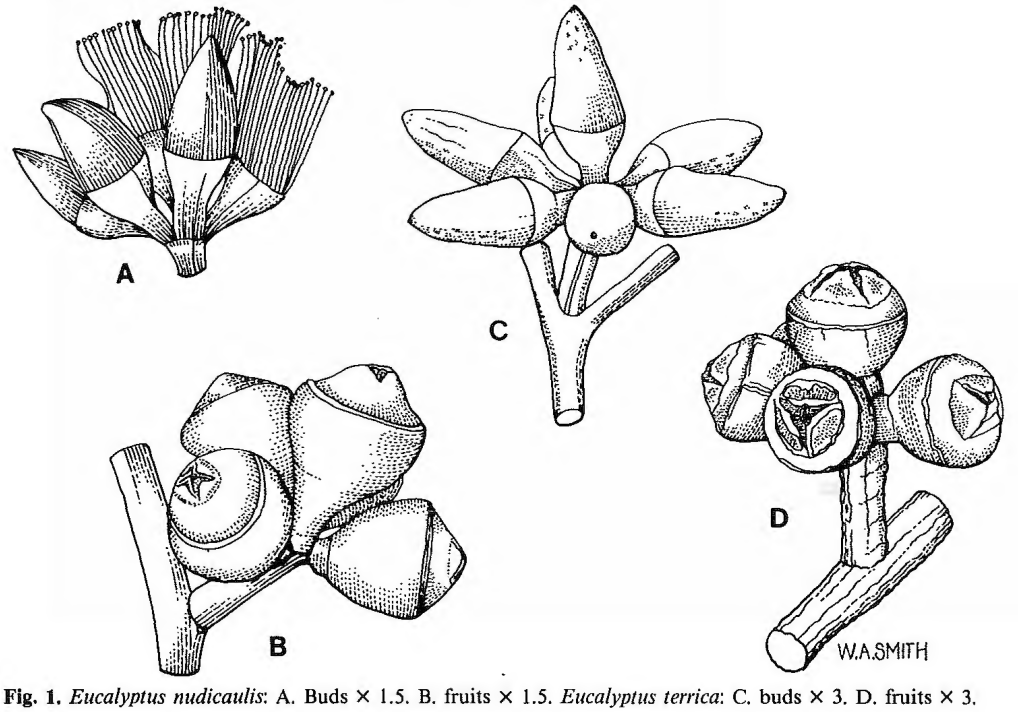


Fig. 1. *Eucalyptus nudicaulis*: A. Buds × 1.5. B. fruits × 1.5. *Eucalyptus terrica*: C. buds × 3. D. fruits × 3.

Material intermediate between *E. terrica* and *E. chloroclada*: 5 km E of 'Cattle Creek', on Cecil Plains-Moonie road, Feb 1988, *Bean* 725 (BRI); Inglewood S.F., north-west of Inglewood, Jun 1990, *Bean* 1661 (BRI).

Distribution and habitat: *E. terrica* has a limited distribution in the Warwick-Inglewood district of southern Queensland. The altitudinal range is 300–800 metres, with the highest altitudes being near Amiens. It grows on hilly country, on shallow light coloured loams. Associated eucalypts include *E. melliodora* Cunn. ex Schauer, *E. moluccana* Roxb. and *E. caleyi* Maiden. **Map 2.**

Flowering period: September – October

Notes: *E. terrica* is quite distinctive in the areas east of Inglewood, by virtue of the rough brown bark on the trunk and large branches, and very small leaves, buds and fruits. It intergrades with *E. chloroclada* in the Inglewood area; as one travels north and west, trees gradually become less rough-barked, the buds and fruits become larger, and the leaves, particularly the juvenile leaves, become larger and broader. Seedlings raised from the Cattle Creek area, NW of Inglewood (*Bean* 1477 (BRI,CANB)) display leaf dimensions intermediate between the two taxa. *E. terrica* is similar in appearance to *E. exserta s. lat.* These two taxa sometimes grow together, but when this occurs, there is no loss of identity for either.

Etymology: The specific epithet refers to the name of the station near where the type was collected, which is near the middle of the distributional range of the species.

Key to the Red Gums (*Eucalyptus* series *Exsertae*) of Queensland and Northern Territory

1. Trees, bark rough at least on majority of trunk 2
   Trees or mallees, bark smooth and deciduous, or with a short stocking of rough bark 4

2. Rough bark on trunk only, trees preferring swampy sites, leaves green, fruits 7–10 mm long ..... **E. brassiana**
   Rough bark extending at least to larger limbs, trees of dry hilly sites, leaves grey-green, fruits 4–8 mm long 3

3. Rough bark on trunk and largest branches; fruits 4–5 mm long; disc flat to slightly convex; juvenile leaves narrow-lanceolate ..... **E. terrica**
   Rough bark extending almost throughout; fruits 5–8 mm long; disc steeply convex; juvenile leaves linear to lanceolate ..... **E. exserta** *s. lat.*

4. Bark dull, granular; base of fruiting valves below rim 5
   Bark shiny, not granular; base of fruiting valves at or above rim level 8

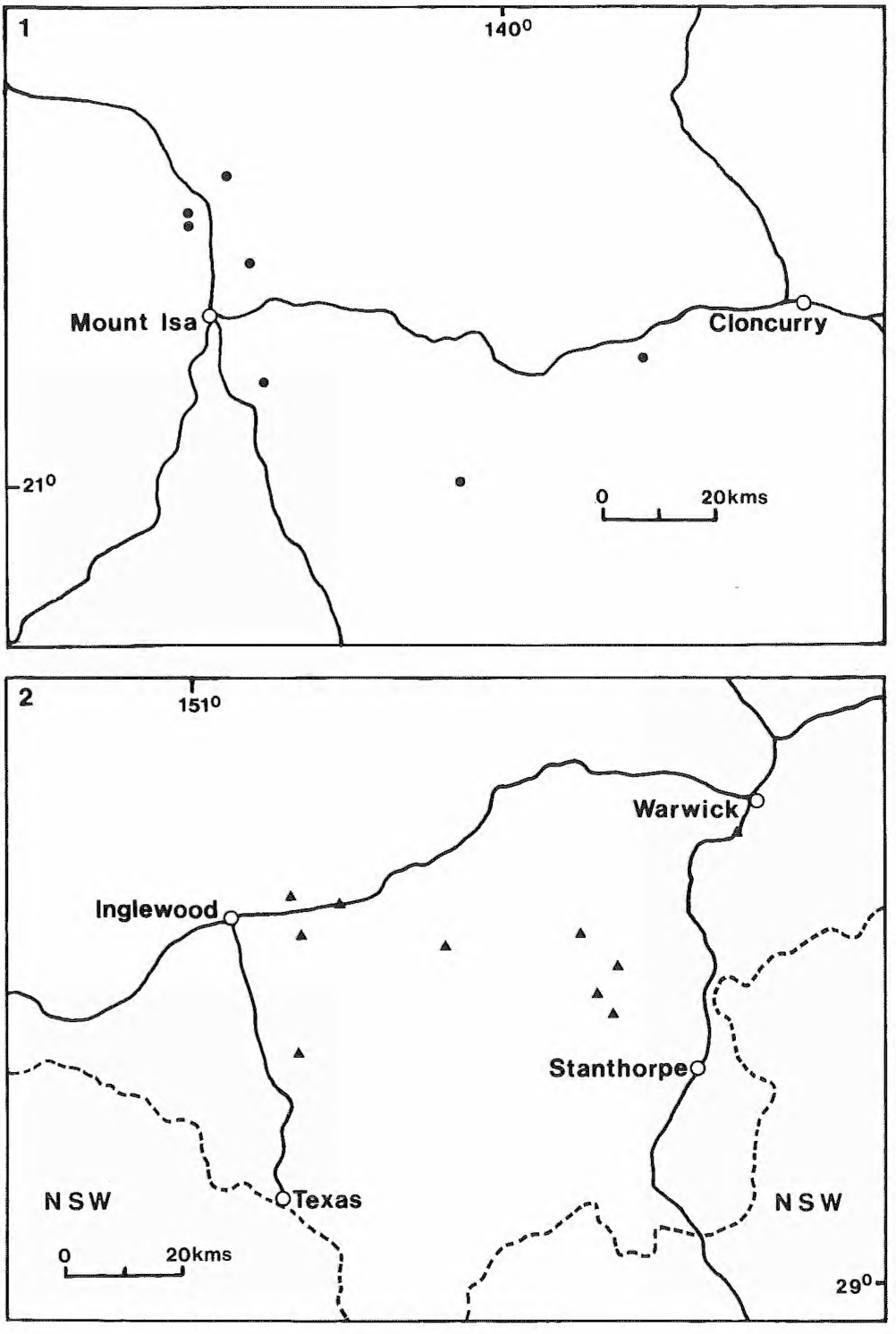
5. Adult leaves narrow-lanceolate; fruits 5–6 × 5–6 mm 6
   Adult leaves broad-lanceolate; fruits 6–9 × 7–9 mm 7

6. Juvenile leaves linear; trees of coastal areas ..... **E. seeana**
   Juvenile leaves broad-lanceolate; non-coastal trees, often near Great Dividing Range ..... **E. interstans**

7. Buds not glaucous; operculum conical to horn-shaped; coastal trees; leaves acuminate ..... **E. bancroftii**
   Buds glaucous; operculum ovoid; inland trees; leaves obtuse or acuminate ..... **E. prava**

8. Buds and adult leaves markedly glaucous ..... **E. dealbata**
   Buds and adult leaves not glaucous 9

9. Mallees or small trees of skeletal rocky slopes 10
   Medium to large trees of various habitats, but not on rocky slopes 12



Maps 1 & 2. Distribution of *Eucalyptus* spp. 1. *E. nudicaulis*. 2. *E. terrica*.

10. Inflorescences 9–13-flowered, fruits 4–5 mm long ..... **E. kabiana**
    Inflorescences 7-flowered, fruits 6–10 mm long 11

11. Operculum length/breadth ratio 1.5–2, juvenile leaves narrowly lanceolate ..... **E. nudicaulis**
    Operculum length/breadth ratio 1–1.5, juvenile leaves ovate to orbicular ..... **E. gillenii**

12. Operculum length/breadth ratio <1.6 13
    Operculum length/breadth ratio >1.6 14

13. Trees of watercourses; disc of fruit strongly convex; valves curved; seeds yellow ..... **E. camaldulensis**
    Trees of sandy cypress-pine flats; disc of fruit flat or slightly convex; valves straight; seeds black ..... **E. chloroclada**

14. Trees of frosty flats; juvenile leaves orbicular and green; buds and fruits often sessile ..... **E. amplifolia**
    Trees of hillsides or watercourses; juvenile leaves ovate, bluish; buds and fruits not sessile 15

15. Umbels 7–11-flowered; operculum conical, straight-sided; flowering Dec–Feb; adult leaves bluish-green ..... **E. blakelyi**
    Umbels 7-flowered; operculum horn-shaped, expanded at base; flowering Apr–Sept; adult leaves green ..... **E. tereticornis**

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References

CHIPPENDALE, G.M. (1988). *Eucalyptus, Angophora* (Myrtaceae). In A.S. George (ed.), Flora of Australia 19. Canberra: Australian Government Publishing Service.

JOHNSON, L.A.S. & HILL, K.D. (1990). New taxa and combinations in *Eucalyptus* and *Angophora* (Myrtaceae). *Telopea* 4(1): 37–108.

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